Before The

FEDERAL COMMUNICATIONS COMMISSION

Washington, D.C. 20554

Docket 92-234

Inquiry into Encryption Technology for Satellite Cable Programming

Reply of Consumer Satellite Systems, Inc.

JANUARY 18, 1993

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The Federal Communications Commission, in its Notice of Inquiry (PP Docket No.92-234, is undertaking a critically needed assessment of the home satellite dish (HSD) market. In the Commission's request for initial comments from the HSD industry and interested parties, the Commission provided an accurate historical overview of the HSD industry and posed the key questions and sought comment on emerging issues and concerns that will affect future development of the HSD market. The Commission has been ill-served by a number of initial responses submitted in this NOI, with a number of filings providing the Commission erroneous data and information. If the Commission is to reach a conclusion in this inquiry that reflects true market conditions and future requirements, it must receive supplemental information. To that end, CSS is submitting this filing, Reply Comments, as supplemental information to assist the Commission in this inquiry.

Introduction

Consumer Satellite Systems, Inc. (CSS) is a hardware distributor of Home Satellite TV (TVRO) and Consumer Electronics products. Incorporated in 1981, CSS now has 10 locations located in Indiana (home office), Illinois, Michigan, Wisconsin, Kentucky, Tennessee, Ohio, Pennsylvania and Maryland. Although the hardware division consists mainly of TVRO sales, about 15% of sales is in the Consumer Electronics area consisting of stereo and Television products. In 1987, CSS created a division to sell subscription programming to TVRO households called National Programming Service (NPS). NPS is the largest independent program packager in the Home Satellite Industry representing over 140,000 active subscribers. NPS is an affiliate for all subscription services like HBO, Showtime, CNN etc.

Supplemental Information

A careful review of some of the data contained in the initial comments filed in this inquiry results in easy identification of assertions and statements that are not only inaccurate but also misleading.

Security

The security of the current encryption system has been compromised repeatedly and then corrected. General Instrument Corporation (GIC) has spent a reported $50 million to replace the legitimate consumer VC2 universe. What was not mentioned are the estimated 1.5 million pirate units that will have to be upgraded, and if only half upgrade to a VCRS

module GIC based on cost estimates on the module will have an income of $150 million. The current VideoCipher 2 Plus system seems to be holding up against pirate attack. Upon reviewing the comments we are led to believe that an additional analog scrambling system would be unwise as it could possibly lead to future breaks in security thereby paralyzing the industry as the recent wave of piracy did. When examining the recent VC2 "fix" using upgraded VCRS (Smart card Technology) we find that piracy is alive and well in the TVRO marketplace. The pirate community has successfully tapped into the commercial VC2 data stream which is still available to the marketplace. Although all the consumer modules were upgraded at no cost to the consumers, an estimated 300,000 commercial head end descramblers are still operating in a VC2 environment. The cost to a consumer for a sophisticated chip system that stores all the commercial authorization keys is currently available for as low as $250.00. Some programmers have announced plans to upgrade their commercial head ends to the VC2 Plus RS technology, but product availability and cost ($189) will make this a slow process, expected to take over a year for all programmers to comply. Although the pirate community will continue to lose services as services migrate to the VC2 Plus data stream, theft of signal will continue for many months to come.

If the current VC2 Plus security system is compromised, a smart card is to be sent to the customer which will move the module to the next level of security. We find however that there are an estimated 300,000 to 400,000 VC2 Plus modules is the hands of consumers that DO NOT have a slot to accept the smart card upgrade, and there are no announced plans in place to take care of these customers. Our industry has accepted the "Defacto Standard" as VC2 and now VC2 Plus RS (Renewable Security).

The lack of an alternative has given us no choice. It was almost 2 years after the introduction of the VC2 that General Instrument publicly admitted that there was a security breach in their system when in fact working pirate products were in the field 6 months after the introduction of the system. We submit that in a competitive environment that not only do you have competitive pricing, but better product with more responsive companies. The Titan LSCS smart card system appears to offer features from the onset that would provide the security level that the C Band industry must have to survive. The level of security must be proven to the programmers which is currently underway, and when accepted will provide a viable alternate to the existing VC2 Plus RS system.

Competitive Delivery Systems, C Band Equipment, Cost Reductions

Competition in the encryption segment of the TVRO industry is non existent thereby jeopardizing the future of the C-Band market. The Commission is aware that analog C Band technology will be a viable delivery system into the year 2005 and beyond. Although new high powered DBS services are looming on the Horizon, C Band will and can be a viable and even high end alternative to the new emerging technologies only if it can be competitively priced. Cost reductions will only occur if a competitive environment can be established. We have been encouraged that the introduction of Titan Satellite's Link A Bit Smart Card System (LSCS) will bring the competition that to date has been lacking. All TVRO products, antennas, LNBs, receivers, feed systems and actuator drive arms are sold in a competitive environment which has forced prices down . We face a

challenge for the C Band marketplace that will effect thousands of TVRO retailers, distributors and millions of current and future C Band customers. That challenge is how to be competitive with the already announced $699 and $899 price points of the upcoming high powered DBS services. C Band can be competitive, only if module prices become realistic which drastically effect the cost of the entire system.

It has been suggested that there will be dramatic *decreases* in C Band equipment to meet the competitive pricing of the High Power DBS (HPDBS) systems that will be introduced in mid 1994. This comment has been made by companies totally unfamiliar in the TVRO hardware business. It bears close examination of each component of a TVRO system to determine where all these assumed fantastic savings will occur.

The Antenna:

The C Band market demands an antenna size of at least 6 foot in diameter or greater. The obvious size limits cost savings as raw material cost is relatively fixed and freight charges are also fixed. We can expect to see some cost reduction in C Band antennas over the next 12 months due to increased manufacturing capabilities and some new and more efficient processes. A possible 20% is anticipated on a roughly $160 distributor cost item.

The LNB

The LNB (Low Noise Block Converter) is not anticipated to drop in cost. Quality and performance is improving, but costs will not change much. We are already dealing with a $40 item that must have more stages of amplification due to the lower power of C Band satellites.

The Feed

The feed assembly which captures the signal which is reflected off the dish also may be reduced somewhat with increased volume, but again we are dealing with an item that is already as low as $19, so any cost savings in this area are limited.

The Actuator

The actuator is the device that moves the dish from satellite to satellite. Although this device is not necessary for a fixed C Band installation, a fixed C Band installation can at this time only receive 24 channels which is not competitive with the 60 to 150 channel proposed HPDBS systems. We expect some digital compression on C Band but many programmers will not go to the additional expense of re uplinking their current analog C Band feeds. Therefore the actuator is an important mechanical device that is necessary when looking at a C Band system. Actuators are typically about $46 when purchased directly from manufactures at container load quantities.

No additional price discounts are anticipated, in fact prices have been going up.

The IRD

We come to the last and most expensive component of the entire satellite system. The IRD consists of 2 primary pieces, the decoder module and the receiver. Until late 1992, you could not separate the 2 components. The VideoCipher decoder module was shipped inserted into the IRD by the manufacturer. This was not their choice, but the licensing requirement mandated by General Instrument (GIC). The cost of the module has ballooned to $336 and is now available to regular distributors as a separate item. When we examine the cost of an IRD, low end models with built in antenna position controls can be purchased between $265 and $310, less than the module. What is amazing is that there are substantially less components and packaging involved in the VC module but yet it costs more than the IRD receiver. One has only to open up the top of an IRD and view the components inside to see the complexity of the product we are dealing with. When compared to a VHS tape recorder with production numbers substantially higher than all the satellite receivers put together one is to wonder where the costs savings will come from. New surface mount technology may bring the cost of IRD's down, but then General Instrument started using the manufacturing technique on the VCRS module and the price went up.

Part of the receiver cost problem is that GIC has never offered the module in any other configuration other than a big circuit board

in a plastic cage. This piece of hardware has maintained the same configuration since 1986, 6 YEARS! This in itself is incredible when you look at the advancements in the electronic industry over the last six years when everything has become smaller and more efficient. Until just recently the module has not been offered in any other configuration. Yet during this same time period we have see IRD chassis drop over 50% in cost, while the GIC module has nearly doubled. It is an accepted fact that if GIC had offered the module components to manufacturers earlier, not only would the cost of the IRD's have been reduced, their size would have been reduced, and the level of piracy would have been reduced as pirates would have had to destroy the warranty and chassis of an IRD during the development of the pirate market.

When we add up the components of a C Band system at distributor cost, you can see that the components will equal about $900, not including the mounting pipe. The module at this time is 37% of the entire system cost, the receiver chassis is 33%. The key to the reduction of the hardware cost is a competitor in the module business so the primary supplier will stop acting like a monopoly.

Digital Transition - Lost capacity - HBI vs VBI

We have reviewed comments that state that the transition from analog to inexpensive digital systems will happen quickly unless the cost of C Band equipment can get more competitive, yet the same proponents want to restrict the competition in the module business which would allow those

cost reductions to occur. The people who are promoting this module monopoly would have you believe that the HBI is insecure because the pirates have accessed the data on the HBI. They have even gone so far as to say that if the VC2 commercial data stream is eliminated from the HBI, and the new VC2 Plus data stream is transmitted on the VBI that this will stop the piracy, when in fact the data on the data stream is the key, not where it is transmitted. The only reason the VBI was used in the first place is because there was no more room on the HBI for the VC2 Plus signal. Any electronic technician just out of school knows that you can access the VBI just as easy as the HBI. It is not how accessible it is, but what you put on it. These are just places in a TV signal where you can put digital data. Every TV sold in the U.S. by mid 1993 will have closed captioning. The data for closed captioning is on VBI. So much for hard to access.

Comments have also been made that the HBI should be reserved for additional digital data, and the loss of part of the HBI to another encryption data stream would be a useless waste of space, while in the same text they state how the upcoming digital revolution will provide all the data and video space needed to do an almost unlimited number of things. If this is true, why the concern over HBI when it probably will not be used anyway. A workable transition from analog to digital will happen, but it should not be forced because of unreasonable price restrictions of one component in the C band system. Competition in the encryption segment of the TVRO industry is non existent thereby jeopardizing the future of the C-Band market.

Competition in the Module Business

Probably the biggest misrepresentation is a statement that there has been competition in the module business. It has been pointed out that Channel Master has been licensed to make modules by GIC. The statement was made that "Despite this competition the price of modules and IRDs has not reached a minimum level." Plain and simple, the modules have always carried the IDENTICAL price from Channel Master AND GIC. Each time there was an announced price increase from GIC, Channel Master had the same price increase. The proof over 5 years is that there has NEVER been competition in the module business and that all manufacturers paid the same price from Channel Master OR GIC. That in itself should raise eyebrows. When on the other hand, if we look at various receiver manufacturers, antenna manufacturers and component manufacturers, a satellite system costs today about what it did in 1986 WITHOUT an expensive $336 module. When you stand back and look at the whole picture, the components that had legitimate competition had significant price reductions, except for the module, which has been steadily increased by both Channel Master AND GIC in *unison*. Increased competition should further reduce the cost of this equipment, and when we get REAL competition, it will.

Competition - How it affects current distribution

Unfortunately, for many thousands of dealers in business today, the preservation of the C Band business means the preservation of our businesses. We do not believe, or even expect to change the upcoming

HPDBS projects, in fact we encourage their arrival. With a price leader HPDBS system, current retailers will sell many systems, including C Band systems. It has been said that high and mid-power Ku DBS systems will provide competitive technology, they will also provide competitors with prices that are unfair to existing C Band merchants. A C Band system will always be more expensive, but for a long time to come it will also offer more. To be a little higher in price is one thing, but to be completely out of line is another. The existing lack of competition in the module business is causing our product to be priced to high, and therefore not competitive with upcoming HPDBS systems.

Consumer Confusion

It has been said that dual modules in the C Band business will cause consumer confusion. Nonsense. The current C Band market has scrambled signals under VC1, B Mac, Oak and other systems, all which a consumer can pick up on his satellite system. Most of these he cannot view unless the VC2 Plus RS system is used. The customer wants his programming that he paid for. Whether a Titan module is used or a GIC module is used is of little interest to the consumer. All back office authorization centers have the ability to interface with the Titan DBS center, independent of GIC's authorization center. This is transparent to the consumer.

Compatibility of Competitive Systems

It has been suggested that different scrambling systems may offer different features, and consumers may become confused and frustrated if the features are not identical from one scrambling system to another. Well welcome to the world of choice and competition. Since when do we need big companies supporting monopolistic marketing practices telling the consumer "What he needs". As a consumer myself I find these statements an insult to my intelligence, and from my prospective of being in the consumer electronics field for 22 years I find it disgusting. The people in this country have been making decisions on features and what to pay for them long before anyone knew what a satellite was. To say that "big brother" must control these standards is absurd. The important factors are 1) Is the signal secure, and 2) is the operation of a competitive module transparent to the customer.

Conclusion

I have elected not to repeat what the Commission already knows about the migration of the U.S. television system, or the advancements in digital technology. Nor will I repeat the challenges that cable is making and their success stories. My main concern is a C Band system that can survive for the next 15 year next to High Power DBS. The Commission should adopt a forward looking approach, but that approach should not seal the tomb on an industry which pioneered Direct Broadcast Satellite (DBS) back in 1979. Our industry is made up of hard working entrepreneurs that will continue to play an important part in the delivery of broadcast quality TV to the homes

of America. We will be there when we are called on to participate in the explosion of High Power DBS. We will also be there for the customer who wants the high end of the satellite TV market, C Band, with all that HBDBS has to offer plus much more. The retail price points must be in line with a logical step up in retail price. Without aggressive competition in the module arena, the C Band industry could be in line for an early grave and that would be a great disservice to thousands of businesses and millions of consumers. We do not like regulatory management, but since there seems to be no competitive environment in the C Band module business action by the Commission may be necessary.

Respectfully submitted,

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